DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Regarding Claims 1 and 3. Waddington et al. teach a flexible polyurethane foam produced by the reaction of a polyol composition and a polyisocyanate (Page 4, Line 25 – Page 5, Line 29; Page 8, Lines 22 - 34).

The polyol composition (corresponding to applicants polyol composition "A") comprises 0 – 95 percent by weight polyol (b1) (corresponding to applicant's polyol B) and 5 to 100 percent by weight polyol (b2). Polyol (b1) is preferably a polyether polyol with a functionality in the range of 2 to 6 (Page 8, Line 7 - 17). Polyol (b1) may preferably have a hydroxyl value in the range of 20 to 70 KOH/g (Page 8, Line 36 – Page 9, Line 2).

Polyol (b2) may be prepared the alkoxylation of a compound of the following formula:

$$H_mA-(CH_2)_n-N(R)-(CH_2)_p-AH_m$$

Polyol (b2a) of Waddington et al. corresponds to applicant's polyol (D) when m equals 2, n and p equal an integer from 2 to 6, R is a C_1 to C_3 alkyl group, and A is nitrogen (Page 4, Line 25 – Page 5, Line 12). Polyol (b2a) may be, for example, 3,3'-diamino-n-methyldipropylamine (a.k.a. methyliminobispropylamine, the compound set forth as polyol (D) in instant claim 3) (Column 12, Lines 23 – 26). The polyols used generally have a hydroxyl number in the range of 20 to about 800 KOH/g (Page 8, Lines 32 – 33).

While Waddington et al. are silent regarding the amine value of polyol (b2a) (applicant's polyol (D)), Waddington et al. teach a composition prepared with the claimed ingredients and specifically claimed amine compound. Waddington et al. further teach the composition is used to prepare a flexible polyurethane foam. It is thus the Office's position that it would be reasonably expected that the amine-initiated polyether polyol taught by Waddington et al. would have an amine value in the claimed range of 400 to 600 mg KOH/g.

As Waddington et al. teach polyol (b2a) is present in an amount of 0 – 95 weight percent, the range disclosed is broader than the content of polyol (D) claimed by applicant. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 220 F.2d 454, 105, 105 USPQ 233 (CCPA 1955) (MPEP 2144.05) At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to optimize the amount of polyol (b2a). These polyols are indicated to be catalytically active and, if used in a large enough amount, will eliminate the need for a catalyst entirely. Accordingly, it would be obvious to adjust the amount of polyol (b2a) such that it falls closer to the lower limit of the claimed range when more control and a slower reaction rate is desired (Page 6, Lines 18 – 29; Page 12, Lines 27 – 30). A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 617 F.2d 272, 205, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05)

Regarding Claim 5. Waddington et al. teach a seat for an automobile comprising the foam of Claim 3 (Page 19, Lines 17 – 19).

Regarding Claim 8. Waddington et al. teach the foam of Claim 5 but are silent regarding a specific amount of volatile amine components in the foam. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s). Therefore, the claimed effects and physical properties, i.e. an seat with the claimed content of volatile amine components, would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application

contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with *only* the claimed ingredients.

Regarding Claim 9. Waddington et al. teach noise insulation parts comprising the foam of Claim 3 (Page 19, Lines 17 – 19).

Regarding Claim 10. Waddington et al. teach the foam of Claim 9 but are silent regarding a specific amount of volatile amine components in the foam. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s). Therefore, the claimed effects and physical properties, i.e. a sound-absorbing material with a volatile amine content in the claimed range, would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with *only* the claimed ingredients.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/58976 to Waddington et al., as applied to Claims 1, 3, and 5 above, and further in view of US 6,087,410 to Falke et al.

Regarding Claims 6 and 7. Waddington et al. teach the seating of Claim 5 but do not teach its hardness and wet heat compression set ratio. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches all of the claimed ingredient(s). Therefore, the claimed effects and physical properties - i.e. a foam seat with a 25% LID hardness between 150 to 300 or 50 to 200 N/314 cm^2 and a wet heat compression set ratio of not greater than 20% - would implicitly be achieved by a composition with all the claimed ingredients. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with *only* the claimed ingredients.

Waddington et al. also do not teach the density of the foam prepared according to Claim 5. However, Falke et al. also teach a polyurethane foam prepared with a density in the range preferably from 25 to 50 kg/m^3 (Column 10, Lines 19 - 22). Waddington et al. and Falke et al. are analogous art as they are from the same field of endeavor, namely flexible polyurethane foams. At the time of invention, it would have been obvious to a person of ordinary skill in the art to add a blowing agent to the foam-forming composition taught by Waddington et al. in an amount sufficient to prepare a

foam with a density in the range taught by Falke et al. The motivation would have been that the density taught by Falke et al. would be a suitable density for automobile seat applications (Falke et al.: Column 10, Lines 19 – 25), an intended use for the foam taught by Waddington et al. (Waddington et al.: Page 19, Lines 17 – 19).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/58976 to Waddington et al.

Regarding Claim 4. Waddington et al. teach a polyol composition comprising 0 – 95 percent by weight polyol (b1) and 5 to 100 percent by weight polyol (b2) (Page 4, Line 25 – Page 5, Line 29).

Polyol (b1) (which corresponds to applicant's polyol B) is preferably a polyether polyol with a functionality in the range of 2 to 6 (Page 8, Line 7 - 17). Polyol (b1) may preferably have a hydroxyl value in the range of 20 to 70 KOH/g (Page 8, Line 36 – Page 9, Line 2).

Polyol (b2) may be prepared the alkoxylation of a compound of the following formula:

$$H_mA-(CH_2)_n-N(R)-(CH_2)_p-AH_m$$

Polyol (b2a) of Waddington et al. corresponds to applicant's polyol (D) when m equals 2, n and p equal an integer from 2 to 6, R is a C_1 to C_3 alkyl group, and A is nitrogen

(Page 4, Line 25 – Page 5, Line 12). Polyol (b2a) may be, for example, 3,3'-diamino-n-methyldipropylamine (a.k.a. methyliminobispropylamine, the compound set forth as polyol (D) in instant claim 3) (Column 12, Lines 23 – 26). The polyols used generally have a hydroxyl number in the range of 20 to about 800 KOH/g (Page 8, Lines 32 – 33).

While Waddington et al. are silent regarding the amine value of polyol (b2a) (applicant's polyol (D)), Waddington et al. teach a composition prepared with the claimed ingredients and specifically claimed amine compound. Waddington et al. further teach the composition is used to prepare a flexible polyurethane foam. It is thus the Office's position that it would be reasonably expected that the amine-initiated polyether polyol taught by Waddington would have an amine value in the claimed range of 400 to 600 mg KOH/g.

As Waddington et al. teach polyol (b2a) is present in an amount of 0 – 95 weight percent, the range disclosed is broader than the content of polyol (D) claimed by applicant. However, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 220 F.2d 454, 105, 105 USPQ 233 (CCPA 1955) (MPEP 2144.05) At the time of the invention, it would have been obvious to a person of ordinary skill in the art to optimize the amount of polyol (b2a). These polyols are indicated to be catalytically active and, if used in a large enough amount, will eliminate

the need for a catalyst entirely. Accordingly, it would be obvious to adjust the amount of polyol (b2a) such that it falls closer to the lower limit of the claimed range when more control and a slower reaction rate is desired (Page 6, Lines 18 – 29; Page 12, Lines 27 – 30). A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 617 F.2d 272, 205, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05)

Response to Arguments

Applicant's arguments filed March 2, 2010 have been fully considered but they are not persuasive because:

A) Applicant has argued that the instant claims are not obvious over Waddington et al. because the reference teaches an amount of polyol (b2a), corresponding to applicant's polyol (D), that it above applicant's range of 0.5 to 3 parts by weight.

It is noted that Waddington et al. teaches a polyol composition comprising 0 – 95 weight percent polyol (b1) (corresponding to applicant's polyol B) and 5 to 100 weight percent polyol component (b2). Polyol (b2) may be comprised polyol (b2a), which corresponds to applicant's polyol (D), but it may also be comprised of a mixture of polyol (b2a), polyol (b2b), and/or polyol (b2c) (Page 4, Line 25 – Page 4, Line 24). When

the total weight of polyol component (b2) is partitioned among two or three polyols, the amounts of the individual polyols that comprise (b2) could be readily envisioned to each be less than the total weight of polyol (b2) (5 to 100 weight percent). Their sum would not otherwise equal 5 to 100 weight percent. Thus, when (b2a) is part of a polyol blend comprising (b2), the weight of polyol (b2a) could be readily envisioned to be less than 5 to 100 weight percent.

Furthermore, as indicated in rejection above, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 220 F.2d 454, 105, 105 USPQ 233 (CCPA 1955) (MPEP 2144.05) At the time of the invention, it would have been obvious to a person of ordinary skill in the art to optimize the amount of polyol (b2a). Waddington et al. has expressly recognized the amount of the polyols as a result-effective variable, indicating their amounts should vary depending upon the amount of additional catalysts required and the reaction profile required by the specific application (Page 1, Lines 27 - 30). Accordingly, it would be obvious to adjust the amount of polyol (b2a) such that it falls closer to the lower limit of the claimed range when more control and a slower reaction rate is desired (Page 6, Lines 18 – 29; Page 12, Lines 27 – 30). A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are

unexpectedly good. *In re Boesch and Slaney*, 617 F.2d 272, 205, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05)

C) Applicant has cites Examples 2 and 3 in Table 1 and Example 5 and 6 in Table 2 in the instant specification as evidence of unexpected results, indicating superior results were achieved when a polyol produced by adding methyliminobispropylamine (MIBPA) is added to ethylene oxide is used instead of a polyol produced with a conventional amine initiator. However, Waddington et al. expressly teach the use of MIBPA-initiated polyols and therefore the superior results achieved with these polyols cannot be considered unexpected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA RIOJA whose telephone number is (571)270-3305. The examiner can normally be reached on Monday - Friday 7:00AM - 3:30PM E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/ /MAR/
Supervisory Patent Examiner, Art Unit 1796 May 24, 2010